Effect of Inter-Magnet Spacing on FFAG Performance and Cost

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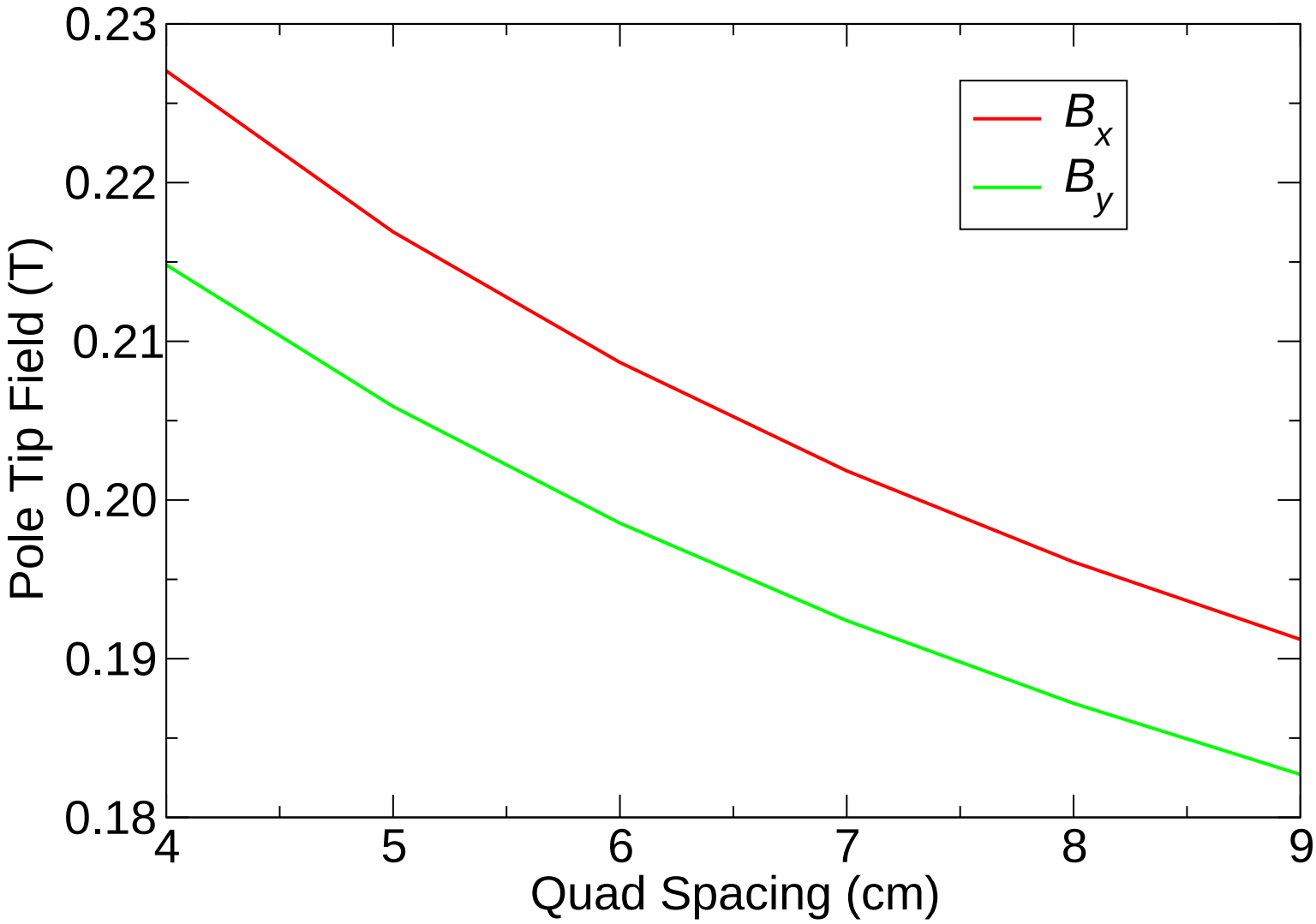
Effect of Short Drift Length

- Example: electron model lattice, fixed lengths, number of cells
- Increasing short drift length decreases field requirements
  - D and F magnets don't fight each other
- Increasing short drift length increases time-of-flight range
  - Primarily due to increased cell length
  - Therefore weak
  - Requires larger circumference or higher magnetic fields to compensate
- Unclear how this will affect cost
- Larger drift may be more desirable for other reasons (space for coils, etc.)

Field vs. Short Drift



Efficiency vs. Short Drift